

Title (en)

Method for the Preparation of 1-Benzotriazolyl Carbonate Esters of Poly(ethylene glycol)

Title (de)

Verfahren zur Herstellung von 1-Benzotriazolylcarbonatestern von Poly(ethylenglykol)

Title (fr)

Procédé de préparation d'esters de carbonate de 1-benzotriazolyle de poly(éthylène glycol)

Publication

**EP 2070968 A3 20130724 (EN)**

Application

**EP 09154211 A 20001218**

Priority

- EP 00986602 A 20001218
- US 17183499 P 19991222

Abstract (en)

[origin: WO0145796A2] The invention provides a method for preparing a 1-benzotriazolylcarbonate ester of a water-soluble and non-peptidic polymer by reacting a terminal hydroxyl group of a water-soluble and non-peptidic polymer with di(1-benzotriazolyl)carbonate in the presence of an amine base and an organic solvent. The polymer backbone can be poly(ethylene glycol). The 1-benzotriazolylcarbonate ester can then be reacted directly with a biologically active agent to form a biologically active polymer conjugate or reacted with an amino acid such as lysine, to form an amino acid derivative.

IPC 8 full level

**C08G 65/333** (2006.01); **C12N 9/96** (2006.01); **A61K 47/48** (2006.01); **C08F 8/30** (2006.01); **C08G 65/325** (2006.01); **C08G 65/329** (2006.01); **C08G 65/332** (2006.01)

CPC (source: EP KR US)

**A61K 31/7088** (2013.01 - EP US); **A61K 47/58** (2017.07 - US); **A61K 47/60** (2017.07 - EP US); **A61K 47/6901** (2017.07 - EP US); **A61P 29/00** (2017.12 - EP); **A61P 43/00** (2017.12 - EP); **C08G 63/91** (2013.01 - US); **C08G 65/333** (2013.01 - KR); **C08G 65/48** (2013.01 - US)

Citation (search report)

- [XD] US 5932462 A 19990803 - HARRIS MILTON J [US], et al
- [AD] US 5650234 A 19970722 - DOLENCE ERIC KURT [US], et al
- [A] US 5985263 A 19991116 - LEE SEOJU [US], et al
- [A] DD 287951 A5 19910314 - AKAD WISSENSCHAFTEN DDR [DE]
- [AD] US 5629384 A 19970513 - VERONESE FRANCESCO M [IT], et al
- [X] MONFARDINI C ET AL: "A BRANCHED MONOMETHOXYPOLY(ETHYLENE GLYCOL) FOR PROTEIN MODIFICATION", BIOCONJUGATE CHEMISTRY, AMERICAN CHEMICAL SOCIETY, WASHINGTON, US, vol. 6, no. 1, 1995, pages 62 - 69, XP000494804, ISSN: 1043-1802

Designated contracting state (EPC)

AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

Designated extension state (EPC)

AL LT LV MK RO SI

DOCDB simple family (publication)

**WO 0145796 A2 20010628; WO 0145796 A3 20020510;** AT E424431 T2 20090315; AU 2281001 A 20010703; AU 781729 B2 20050609; CA 2393638 A1 20010628; CA 2393638 C 20091020; CY 1109102 T1 20140702; DE 60041715 D1 20090416; DK 1259563 T3 20090420; DK 1259563 T4 20161121; EP 1259563 A2 20021127; EP 1259563 B1 20090304; EP 1259563 B2 20160810; EP 2070968 A2 20090617; EP 2070968 A3 20130724; ES 2321800 T3 20090612; ES 2321800 T5 20170217; JP 2003518151 A 20030603; JP 2012122080 A 20120628; JP 5095061 B2 20121212; KR 100729977 B1 20070620; KR 20020074460 A 20020930; MX PA02006215 A 20031015; PT 1259563 E 20090414; US 10456476 B2 20191029; US 2001056171 A1 20011227; US 2002086939 A1 20020704; US 2002099133 A1 20020725; US 2004157991 A1 20040812; US 2006264578 A1 20061123; US 2008227872 A1 20080918; US 2009215910 A1 20090827; US 2010197806 A1 20100805; US 2011237746 A1 20110929; US 2013053514 A1 20130228; US 2014051845 A1 20140220; US 2015191568 A1 20150709; US 2016310606 A1 20161027; US 2018064822 A1 20180308; US 2020009260 A1 20200109; US 6376604 B2 20020423; US 6624246 B2 20030923; US 6710125 B2 20040323; US 7101932 B2 20060905; US 7378469 B2 20080527; US 7544738 B2 20090609; US 7723432 B2 20100525; US 7977427 B2 20110712; US 8299173 B2 20121030; US 8563651 B2 20131022; US 8816002 B2 20140826; US 9346917 B2 20160524; US 9839695 B2 20171212

DOCDB simple family (application)

**US 0034590 W 20001218;** AT 00986602 T 20001218; AU 2281001 A 20001218; CA 2393638 A 20001218; CY 091100563 T 20090528; DE 60041715 T 20001218; DK 00986602 T 20001218; EP 00986602 A 20001218; EP 09154211 A 20001218; ES 00986602 T 20001218; JP 2001546734 A 20001218; JP 2012065779 A 20120322; KR 20027008016 A 20020621; MX PA02006215 A 20001218; PT 00986602 T 20001218; US 15013608 A 20080425; US 201113154917 A 20110607; US 201213664021 A 20121030; US 201314059020 A 20131021; US 201414467634 A 20140825; US 201615136632 A 20160422; US 201715807335 A 20171108; US 201916578141 A 20190920; US 43387409 A 20090430; US 49213306 A 20060724; US 6834902 A 20020206; US 6837102 A 20020206; US 72733703 A 20031202; US 74055600 A 20001218; US 75690510 A 20100408